**Sample H/W Assignment**

**Original Question (Low Complexity Level)**

 1. Students in a biology class ran an experiment on a type of flowering plant. Their goal was to find the optimal time in the plant's life for flowering. What time period will provide the most flowering plants? Use Table 1-1 to determine your answer.

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| **Table 1-1** |
| **Day** | **Number of Plants Flowering** |
| 2 | 6 |
| 4 | 12 |
| 6 | 18 |
| 8 | 22 |
| 10 | 8 |

|  |  |  |  |
| --- | --- | --- | --- |
|  a. | 5–6 days |  c. | 7–8 days |
|  b. | 6–7 days |  d. | 8–9 days |

**Multiple Choice Question Increased Complexity (Moderate Complexity Level)**

1. Students in a biology class ran an experiment on a type of flowering plant. Their goal was to find the optimal time in the plant's life for flowering. Analyze the chart below, and choose the best explanation for why eight days seems to be the optimum time for flowering?

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| **Table 1-1** |
| **Day** | **Number of Plants Flowering** |
| 2 | 6 |
| 4 | 12 |
| 6 | 18 |
| 8 | 22 |
| 10 | 8 |

a. Eight days is probably the amount of time the plant will live.

b. The plants probably had stored up enough water to provide for a flower to burst out of the plant at that time.

c. Eight days is probably the average amount of time it takes for the plant to develop a flower bud and have it open.

d. The plants probably had stored up enough nutrients from the fertilizer to provide for a flower to burst out of the plant at that time

**Original Question (Low Complexity Level)**

 4. What is a possible benefit of studying plants in the rain forest?

|  |  |
| --- | --- |
| a. | The plants may hold medicines to treat human diseases. |
| b. | The plants may produce needed carbon dioxide. |
| c. | The plants may be cut down and sold in floral shops. |
| d. | The plants may make toxins for human consumption. |

**Short Answer Question Increased Complexity (Moderate Complexity Level)**

There are many benefits to studying plants in the rainforest. Please describe two benefits to humans that will arise from studying the flora in a rainforest ecosystem?

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| **Score** | **Criteria** |
| **0** | **There may be no answer or the student's answer does not explain any benefit to studying rainforest plants. The student demonstrates no understanding of the concept asked for in the question.** |
| **1** | **Student may fully explain one benefit to studying plants in the rainforest, but the second benefit is not described. The student demonstrates partial understanding of the concept asked for in the question.** |
| **2** | **Student may fully explain both of the requested benefits to studying plants in a rainforest ecosystem. The student demonstrates complete understanding of the concepts asked for in the question.** |

**Sample Full Credit Response:** "Humans should make it a priority to study the plants in a rainforest ecosystem for many reasons. One is that we may discover new medicines to treat diseases that previously have not had treatments available to us. Another reason to study the plants in the rainforest ecosystem is to better understand how those plants interact with each other. We need to understand these interactions in order to know what our effects on the ecosystem will be if we harm one particular plant population."